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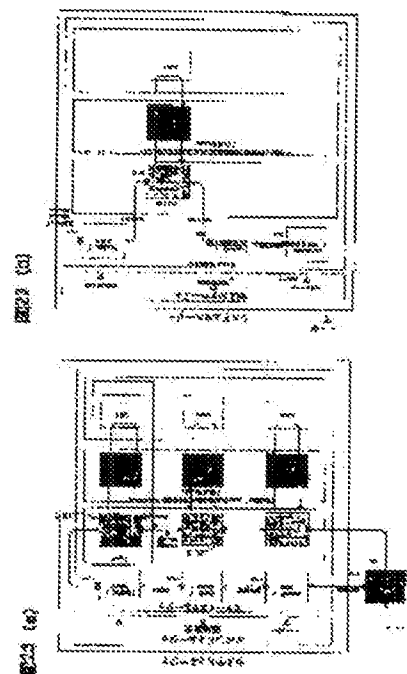
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(54) OPERATION MANAGEMENT SYSTEM

(57)Abstract:

PROBLEM TO BE SOLVED: To provide an internal operation management system for a hospital, etc., which makes it possible to freely set and rearrange an operation flow, prevents a processing omission and misoperation by standardizing the operation flow, can be easily restructured corresponding to change of the layout of operations, and can perform one operation by squeezing another operation into the operation flow.

SOLUTION: The operation management system is equipped with a system control part, a storage means, a display means, an input means, an information processing means, and a graphical user interface. The information processing means is equipped with a system manager and function modules; and the system manager combines function modules at a request inputted from the input means to set and alter or rearrange the operation flow. The operation flow is stored in a storage means and displayed by a display means. The functions modules are equipped with a database including application data and application components.

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* NOTICES *

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CLAIMS

[Claim(s)]
[Claim 1] Are an operating managerial system equipped with the system control section, a storage means, a display means, an input means, and an information processing means, and said information processing means is equipped with a system manager and a functional module, and the demand into which it was inputted from said input means is answered. The operating managerial system which an operating flow is set up, changed or rearranged, and this operating flow is saved for said storage means, and is displayed on said display means when said system manager combines said functional module.
[Claim 2] The operating managerial system with which said functional module contains an application data and an application component in the operating managerial system of claim 1.
[Claim 3] The operating managerial system with which said functional module contains a process controller and a graphical interface in the operating managerial system of claim 1.
[Claim 4] The operating managerial system which is equipped with a graphical user interface and answers further the demand inputted from said input means in the operating managerial system of claim 2, and said system manager sets up an operating flow combining said application component and said graphical user interface, and changes, or is rearranged.
[Claim 5] It consists of two or more business management equipments with which each is equipped with an information processing means and this information processing means, and a shared data storage means. In the operating managerial system to which said information processing means equipped with the system manager and the functional module, and said two or more business management equipments of each other were connected When said system manager constitutes the same operating flow as the operating flow of the system manager who functions with other business management equipments combining said functional module and uses the data of a data storage means shared [said] The operating managerial system which enables it to perform the same operating flow as the operating flow of the system manager who functions with other business management equipments.
[Claim 6] The operating managerial system which said functional module is equipped with an application component and a graphical user interface, and answers the demand into which it was inputted from said input means in the operating managerial system of claim 5, said system manager sets up an operating flow combining said application component and said graphical user interface, and changes, or is rearranged.
[Claim 7] The operating managerial system which resumes the operating flow which had interrupted after are an operating managerial system equipped with the system control section, a storage means, a display means, an input means, and an information-processing means, and said information-processing means is equipped with a system manager, and this system manager answers the interrupt request inputted from said input means, interrupting the operating flow under activation, performing an operating flow with a demand and being completed this business.
[Claim 8] The operating managerial system which can answer the demand into which said information processing means equipped with the functional module and the graphical user interface further, and it was inputted from said input means between interruption processings, and said system manager can set up an operating flow combining said functional module and said graphical user interface, and can change, or can be rearranged in the operating managerial system of claim 7.
[Claim 9] It is an operating managerial system equipped with the system control section, a storage means, a display means, an input means, and an information processing means. Said information processing means With a system manager The database containing an application data and an application component, A process controller and the flexible frame which consists of a program of a large number corresponding to each of an operating process, If it has a graphical user interface and this system is started, while loading said flexible frame and said application data to said storage means, said process controller Answer the demand inputted from said input means, store the copy of

an application data and an application component in a flexible frame from said database, and this flexible frame is memorized for said storage means. When a demand is advanced by one of the methods of said process controller The operating managerial system with which the copy of the application data memorized by said storage means and an application component is used, and said database becomes unnecessary [giving an application data and an application component directly].

[Translation done.]

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DETAILED DESCRIPTION

[Detailed Description of the Invention]
[0001]
[Field of the Invention] Especially the invention in this application relates to the administrative system of the Innai business, such as a hospital, a hospital, and a dental clinic, about an operating managerial system.
[0002]
[Description of the Prior Art] Management of the business of a hospital etc. has management of a workflow, management of medical-examination information, accounting control, etc., and these are performed using the established computer program. As for the conventional program, the user cannot change the contents.
[0003] For this reason, when the system for the conventional Innai business management was used, it was applying so that the Innai business might be doubled with the function which that system offers. When a part of business was not able to be doubled with the function which carries out a system distribution, the system was customized according to the individual and it was supported. Moreover, when adaptation of a system and a work breakdown was not able to be aimed at, the system was newly built or the flow of the business in a hospital was changed.
[0004] Moreover, since one business consists of combination of two or more activities in many cases, he is trying to display on a display the menu screen which lists two or more activities by list form, or arranges two or more one icons showing one activity according to the number of activities in the conventional system. And in performing business, after choosing the first activity from two or more activities about the business, developing the screen about the activity and completing the activity from the menu screen As return to a menu screen again, and choose the next activity, it is made to develop and the activity is done, after choosing the item of another activity which should return to the menu screen and should be performed to a degree, terminating the activity and completing the activity Whenever it worked, selection of the item of the activity from a menu screen, activation of the contents shown in the item of the activity, termination of an activity, the display of a menu screen, and the next activity were chosen, and one business was processed. When another business was performed, the same procedure was performed also about the business.
[0005]
[Problem(s) to be Solved by the Invention] Customize and construction of a new system require time amount to completion, and costs also become huge. Moreover, since it is necessary to change a system each time with modification of staff and facility / medical-examination plan of a hospital etc., or change of the environment outside a hospital, the time amount and cost for it increase. The trade-off with time amount and cost does not lead to fundamental solution of those problems.
[0006] Furthermore, for example, since the environments and medical-examination plans of Innai, such as a dental clinic, differ from each other separately, the medical practitioner and the person in charge of business management itself are wanted to be able to customize easily the optimal workflow for those environments and medical-examination plans.
[0007] Moreover, the operator needed to choose in order the item of the activity displayed on the menu screen, business needed to be performed, and whenever it works, in order to have to return to a menu screen for selection of a work item, activation of business has made it complicated. Moreover, since there is no relevance in the work item displayed on the menu screen, it may be forgotten for an operator to be mistaken in the sequence of a work item, or to choose some of activities. Consequently, the activity might have to be redone anew.
[0008] Furthermore, when a certain activity is being done and other activities must be done, the activity under activation must be terminated and a menu screen must be displayed. And after choosing the activity which should newly be done from the menu screen, doing the activity and completing the activity, it needed to return to the menu

screen, the activity which was being done before needed to be chosen, the activity needed to be redone, and it was very complicated.
[0009]
[Means for Solving the Problem] In order to solve such a problem, the invention in this application offers an operating managerial system equipped with the system control section, a storage means, a display means, an input means, and an information processing means. The information processing means is characterized by what it has a system manager and a functional module and the demand inputted from the input means is answered, and an operating flow is set up, changed or rearranged, and an operating flow is saved for a storage means, and is displayed on an account display means when a system manager combines a functional module. A functional module can contain an application data and an application component. Moreover, a functional module can also contain a process controller and a graphical interface. Further, the operating managerial system concerning the invention in this application is equipped with a graphical user interface, answers the demand inputted from the input means, and a system manager can set up an operating flow combining an application component and a graphical user interface, and can change it, or it can be rearranged.
[0010] Moreover, it consists of two or more business management equipments with which each is equipped with an information processing means and this information processing means, and a shared data storage means, an information processing means is equipped with a system manager and a functional module, and the invention in this application offers the operating managerial system to which two or more business management equipments of each other were connected. The system manager enables it to perform the same operating flow as the operating flow of the system manager who functions with other business management equipments by constituting the same operating flow as the operating flow of the system manager who functions with other business management equipments combining a functional module, and using the data of a shared data storage means. A functional module is equipped with an application component and a graphical user interface, answers the demand inputted from the input means, and a system manager can set up an operating flow combining an application component and a graphical user interface, and can change it, or it can be rearranged.
[0011] Furthermore, after the invention in this application is an operating managerial system equipped with the system control section, a storage means, a display means, an input means, and an information-processing means, and an information-processing means is equipped with a system manager, and a system manager answers the interrupt request inputted from the input means, interrupt the operating flow under activation, perform an operating flow with a demand and business is completed, the operating managerial system which resumes the operating flow which had interrupted provides. Further, an information processing means is equipped with a functional module and a graphical user interface, answers the demand inputted from the input means between interruption processings, and a system manager can set up an operating flow combining a functional module and a graphical user interface, and can change it, or it can be rearranged.
[0012] The invention in this application is an operating managerial system equipped with the system control section, a storage means, a display means, an input means, and an information processing means. An information processing means With furthermore, a system manager The database containing an application data and an application component, A process controller and the flexible frame which consists of a program of a large number corresponding to each of an operating process, If it has a graphical user interface and this system is started, while loading a flexible frame and an application data to a storage means, a process controller Answer the demand inputted from the input means, store the copy of an application data and an application component in a flexible frame from a database, and a flexible frame is memorized for a storage means. When a demand is advanced by one of the methods of a process controller The copy of the application data memorized by the storage means and an application component is used, and the operating managerial system with which a database becomes unnecessary [giving an application data and an application component directly] is offered.
[0013]
[Embodiment of the Invention] Drawing 1 shows the operating administrative equipment 1 used for the system concerning the invention in this application. Here, although the example at the time of using operating administrative equipment 1 as business management equipment for dental clinics is explained, the system concerning the invention in this application is not limited to dental clinics. This equipment 1 becomes the keyboard 4 and mouse 5 list as the body 2 of a personal computer, the display 3 as an indicating equipment, and an input device from the printer 6 as an output unit.
[0014] Drawing 2 shows the block diagram of the equipment. As shown in drawing 2 , the body 2 of a personal computer is equipped with the memory 11, the input unit control section 12, the display control section 13, the

airline printer control section 14, and the file section 15 as the system control section 10 and a storage means. The input device of a keyboard 4 and mouse (or pointing device) 5 grade is connected to the input-device control section 12, and a display 3 is connected to the display control section 13, and the printer 6 is connected to the airline printer control section 14.

[0015] Drawing 3 is drawing for explaining the concept of the information processing system for dentistries. The information processing system for dentistries can operate on the equipment 1 shown in drawing 1 , and can perform business of various information processing in a dental clinic, for example, the input of the contents of a therapy, issue of a medical statement, sharing golden processing of a window, and others. In the information processing system for dentistries, a user can perform layout design of a menu and can also use other operating functions.

[0016] Drawing 4 is drawing for explaining the concept of a menu layout design. This drawing explains the behavior to the user of a system. Behavior of a system is surrounded with the ellipse all over drawing. They are attained by combining or changing a functional module. In it, a user is directly provided with five functions of "a tab name is defined", "a button function being defined", "a carbon button name being defined", "a carbon button color being defined", and "defining carbon button arrangement" by the menu layout design function. It is generalized ["a feature button is managed" and] in 4 of functions [them], i.e., "a button function is defined", "a carbon button name being defined", "a carbon button color being defined", and "carbon button arrangement being defined", and is generalized ["a menu is managed" and] further. "Management of a layout tooth space" is included ["a menu is managed" and].

[0017] Moreover, it is generalized ["a tab page is managed" and] in "a tab name is defined", and is generalized ["a menu is managed" and] further.

[0018] In drawing 4 , the system manager who exists outside the limit of a "menu layout design" manages all the functions that a menu layout design has by managing the behavior of "managing a menu." Thereby, even when it has scheduler ability and a number and locations (operating layout), such as PC, are changed about business, the operating managerial system concerning the invention in this application can reconstruct a system, and can respond to it easily. Moreover, while processing one business, other business can be wedged and can be performed.

[0019] Drawing 5 is drawing expressing the relation and the element of the class used by the menu layout design function shown in drawing 4 . A "system manager" manages the whole system, cooperating with "other managers", and has the relation of the "layout tooth space" and one to one which are used by the menu layout design function. Even 1 to seven [a maximum of] of a "tab page" relate to a "layout tooth space." Moreover, a "feature button" is related by from 1 to a maximum of 12 to one of "the tab pages." All of these numbers are instantiation and they are not limited to them.

[0020] Drawing 6 is drawing expressing the flow of a system until a menu is displayed at the time of a system startup. As shown in drawing, menu screens will differ by the case where it is not customized with the case where the menu is customized by the user. That is, if a system starts and a menu display is started, when not being customized, reading of a standard definition is performed and a standard menu is displayed. When customized, reading of a menu definition is carried out and the custom-made menu which met the definition next is indicated.

[0021] Drawing 7 is drawing for explaining the time interaction of each object. This drawing expresses the time interaction of the object inside the system generated, respectively by three kinds of events when a user clicks a click and another page of a system startup and a standard carbon button. "GUI (menu screen)" lining up side-by-side shown above [in drawing], a "system manager", a "layout tooth space", a "tab page", a "feature button", and a "function" express the object to generate. In this drawing, it goes caudad from the upper part, the passage of time is expressed, and the description which accompanies the arrow head between objects and it expresses the message from an object to an object. This expresses the exchange of the message between objects, and the time timing of generation. The timing of an exchange of the message between those objects is explained below along with drawing 8 thru/or drawing 10 .

[0022] Drawing 8 is drawing for explaining the configuration-interaction of each object at the time of a system startup. Especially this drawing is drawing which took out only the event of "time of system startup ()" shown in drawing 7 , and applied and expressed the focus in the configuration of the object in that case. This drawing shows that the exchange of a message is performed between objects focusing on a system manager. That is, if a user does "1 System startup ()", "GUI (menu screen)" will be generated and the message "() which displayed two menus" will be sent to a system manager from the object. Then, from a system manager, the message of "layout tooth-space display 3 ()" is sent to a "layout tooth space", then the message of "tab page display 4 ()" is sent for sending, and the message of "5 carbon button display ()" is sent to a "feature button" at a "tab page." Then, the message of "completion of 6 displays ()" is sent to a system manager from a "feature button", and, thereby, a system manager

sends the message of "7 starting preparation-completion ()" to a "function."

[0023] Drawing 9 is drawing for explaining the configuration-interaction of each object when a user clicks a feature button. Especially this drawing is drawing which took out only the event of "carbon button click ()" shown in drawing 7 , and applied and expressed the focus in the configuration of the object in that case. This drawing shows that the exchange of a message is performed between objects focusing on a system manager. That is, if a user does "1 Feature button click ()", "GUI (menu screen)" will be generated and the message " () which clicked two carbon buttons" will be sent to a system manager from the object. Then, from a system manager, the message of "activation [of three functions] ()" is sent to a "function", on the other hand the message of "termination of four functions" is sent to a system manager from a "function."

[0024] Drawing 10 is drawing for explaining the configuration-interaction of each object when a user clicks another page. Especially this drawing is drawing which took out only the event of "being another page Click ()" shown in drawing 7 , and applied and expressed the focus in the configuration of the object in that case. This drawing also shows that the exchange of a message is performed between objects focusing on a system manager. that is, a user -- "1 -- in another page, if click ()" is carried out, "GUI (menu screen)" will be generated and the message "2 () which clicked another page" will be sent to a system manager from the object. then, the "tab page" from a system manager -- "3 -- another page is sent in the message of display ()", and the message of "display [of four carbon buttons] ()" is further sent to a "feature button." On the other hand, from a "feature button", the message of "the completion of 5 displays" is sent to a system manager.

[0025] Drawing 11 to drawing 20 is drawing explaining the work flow at the time of a user customizing a menu screen. A system manager manages all of these activities.

[0026] Drawing 11 is drawing for explaining the flow of actuation at the time of doing the activity "defines a tab name" in order that a user may customize a menu screen using input devices, such as a mouse and a keyboard. As shown in drawing, a user starts a menu management screen first. Next, the tab to define is chosen and a tab name is defined. Decision of the modification records modification. An activity will be completed if a management screen is closed. If a menu screen is started and "an activity termination" is chosen immediately, an activity will be ended at the time. Also when the modification is stopped after changing the definition of a tab name, an activity is ended at the time.

[0027] Drawing 12 is drawing for explaining the state transition of the system at the time of doing the activity which was explained by drawing 11 and "which defines a tab name." if a menu management screen is started as shown in drawing -- "-- it shifts to menu definition waiting." If the tab to define is chosen, it will shift to "the waiting for tab renaming." If renaming is started, it will come "into renaming", if a definite carbon button is clicked, it will shift "during modification record", and the activity will be completed if record termination is chosen. on the other hand -- "-- if an activity termination is chosen as menu definition waiting", an activity will be ended at the time. Moreover, also when a modification termination is chosen in the condition "in renaming", an activity is ended at the time.

[0028] Drawing 13 is drawing for explaining the flow of actuation at the time of doing the activity "defines a carbon button color" in order that a user may customize a menu screen. As shown in drawing, a user starts a menu management screen first. Next, the carbon button to define is chosen and a carbon button color is defined. Decision of the modification records modification. An activity will be completed if a management screen is closed. If a menu screen is started and "an activity termination" is chosen immediately, an activity will be ended at the time. Also when the modification is stopped after changing the definition of a carbon button color, an activity is ended at the time.

[0029] Drawing 14 is drawing for explaining the state transition of the system at the time of doing the activity which was explained by drawing 13 and "which defines a carbon button color." if a menu management screen is started as shown in drawing -- "-- it shifts to menu definition waiting." If the carbon button to define is chosen, it will shift to "the waiting for carbon button definition modification." Then, if a color palette is started, it will come "during carbon button color modification", if a definite carbon button is clicked, it will shift "during modification record", and the activity will be completed if record termination is chosen. on the other hand -- "-- if an activity termination is chosen as menu definition waiting", an activity will be ended at the time. Moreover, also when a modification termination is chosen in the condition "under carbon button color modification", an activity is ended at the time.

[0030] Drawing 15 is drawing for explaining the flow of actuation at the time of doing the activity "defines a button function" in order that a user may customize a menu screen. As shown in drawing, a user starts a menu management screen first. Next, the carbon button to define is chosen and a button function is defined. Decision of

the modification records modification. An activity will be completed if a management screen is closed. If a menu screen is started and "an activity termination" is chosen immediately, an activity will be ended at the time. Also when the modification is stopped after changing the definition of a carbon button color, an activity is ended at the time.

[0031] Drawing 16 is drawing for explaining the state transition of the system at the time of doing the activity which was explained by drawing 15 and "which defines a button function." if a menu management screen is started as shown in drawing -- "-- it shifts to menu definition waiting." If the carbon button to define is chosen, it will shift to "the waiting for carbon button definition modification." Then, if the function of a carbon button is chosen, it will come "during button function modification", if a definite carbon button is clicked, it will shift "during modification record", and the activity will be completed if record termination is chosen. on the other hand -- "-- if an activity termination is chosen as menu definition waiting", an activity will be ended at the time. Moreover, also when a modification termination is chosen in the condition "under button function modification", an activity is ended at the time.

[0032] Drawing 17 is drawing for explaining the flow of actuation at the time of doing the activity "defines carbon button arrangement" in order that a user may customize a menu screen. As shown in drawing, a user starts a menu management screen first. Next, the feature button to be used is determined, next the arrangement page of a carbon button is specified, and the arrangement location of a carbon button is specified further. Decision of the modification records modification. An activity will be completed if a management screen is closed. If a menu screen is started and "an activity termination" is chosen immediately, an activity will be ended at the time. Also when the modification is stopped after specifying a carbon button arrangement location and changing the assignment till then etc., an activity is ended at the time.

[0033] Drawing 18 is drawing for explaining the state transition of the system at the time of doing the activity which was explained by drawing 17 and "which defines carbon button arrangement." if a menu management screen is started as shown in drawing -- "-- it shifts to menu definition waiting." if it will shift to "the selection waiting of a page" if the carbon button to be used is chosen, it will shift to "the arrangement waiting of a carbon button" if a page is specified, and an arrangement location is specified -- "-- it shifts to definite waiting." Then, if a definite carbon button is clicked, it will shift "during modification record", and the activity will be completed if record termination is chosen. on the other hand -- "-- if an activity termination is chosen as menu definition waiting", an activity will be ended at the time. moreover -- "-- also when a modification termination is chosen in the condition of definite waiting", an activity is ended at the time.

[0034] Drawing 19 is drawing for explaining the flow of actuation at the time of doing the activity "defines a carbon button name" in order that a user may customize a menu screen. As shown in drawing, a user starts a menu management screen first. Next, the carbon button which changes a name is chosen and a carbon button name is defined. Decision of the modification records modification. An activity will be completed if a management screen is closed. If a menu screen is started and "an activity termination" is chosen immediately, an activity will be ended at the time. Also when the modification is stopped after changing the definition of a carbon button name, an activity is ended at the time.

[0035] Drawing 20 is drawing for explaining the state transition of the system at the time of doing the activity which was explained by drawing 19 and "which defines a carbon button name." if a menu management screen is started as shown in drawing -- "-- it shifts to menu definition waiting." If the carbon button which changes a name is chosen, it will shift to "the waiting for a carbon button definition." Then, if renaming initiation is chosen, it will come "into renaming of a carbon button", if a definite carbon button is clicked, it will shift "during modification record", and the activity will be completed if record termination is chosen. on the other hand -- "-- if an activity termination is chosen as menu definition waiting", an activity will be ended at the time. Moreover, also when a modification termination is chosen in the condition "in renaming of a carbon button", an activity is ended at the time.

[0036] Drawing 21 is a flow chart for working modification of the location of the above-mentioned menu button etc. with a menu management screen. In case menu management is performed, first, a setting screen is displayed and a menu management screen is started. If it does not cancel at the time, it shifts to the activity of changing the color of a carbon button. When preservation is chosen after making the change, the changed contents are saved. The activity is completed after ending a menu management screen.

[0037] Drawing 22 shows the work flow in the case of changing the location of a menu button in the case of menu management in drawing 21. First, a setting screen is displayed and a menu management screen is started. If it does not cancel at the time, and it shifts to selection of the location of a carbon button and the selection is performed, the

carbon button after modification will be displayed. In changing the location of other carbon buttons, according to the demand, it repeats selection of the location of a carbon button. The activity is completed, after saving the data after the modification and ending a menu management screen.

[0038] Drawing 23 (a) is drawing for explaining a system manager's function. A system manager has an event manager, a status manager, a process controller, and a message controller, and controls these conditions. In the system concerning the invention in this application, all application components called the application data which are all the elements of each operating process which constitutes a workflow, the metadata (data for managing data) which manages an application data, form, a list, an object, and a property are saved in the database. A process controller is equivalent to each of virtual program data, and can operate variable data.

[0039] If the program which constitutes a system is started as shown in drawing 24, a process controller loads the structure which consists of much the programs and data corresponding to each of the operating process called a flexible frame to memory. Furthermore, a process controller answers a demand, stores the copy of data and an application component in a flexible frame from a database, and memory is made to memorize it. If a demand is advanced from one of the methods of a process controller when a flexible frame is saved in memory in this condition, the copy of that data and application component that were memorized by memory and that were demanded will be used, and it will become unnecessary that a database gives that demanded data and application component to a direct program. Consequently, the overhead of access of a database can be decreased now.

[0040] Actuation of GUI from the method of the process controller corresponding to each operating process is operated as follows through a flexible frame so that drawing 24 may show. ** Create association of GUI from a process controller. ** Create association to a process controller from GUI. ** Process the message from GUI to a process controller. It explains briefly [below] about these.

[0041] First, in order to create association of GUI from a process controller, the method of process control stores the handle of GUI in a flexible frame. The GUI handle acquired by this approach is used in order to specify GUI which corresponds by various methods of a process controller.

[0042] Next, in order to create association to a process controller from GUI, correlation with a process controller from specified GUI is carried out. This correlation is performed when the method of a process controller acquires "refer to [of a process controller] the object" to GUI to a GUI generate time. Referring to [which was acquired] the object is stored in a flexible frame, and other methods perform correlation with a process controller from GUI by changing a GUI handle into refer to [of a process controller] the object using the upper part.

[0043] In the program concerning the invention in this application, as shown in drawing 24, in case correlation with a process controller and GUI is performed through a flexible frame, the device of flexible frame relation cypripedium is used. The flexible frame relation cypripedium is the device in which receive the message from GUI by the simple procedure, and the method of an object is once called from there.

[0044] Moreover, message processing from GUI to a process controller is performed as follows. First, if GUI arrives from the address of the GUI procedure of GUI stored in the flexible frame, a process controller will pass a message to the message-processing handler which this address shows. Next, a process controller generates flexible frame relation cypripedium. Flexible frame relation cypripedium operates with two complementary codes. Moreover, the method pointer is stored in flexible frame relation cypripedium, and if flexible frame relation cypripedium is called, flexible frame relation cypripedium will call a complementary code. A complementary code puts the pointer to a method pointer into a register, in order to pop up a return value. Next, a complementary code calls a function and calls the method of the object which looks at the method pointer which a register points out and a method pointer shows.

[0045] Thus, a message can be directly sent now to the method of a process controller from GUI by making the structure which sets flexible frame relation cypripedium to a GUI procedure as a GUI procedure of GUI.

[0046] As shown between the process controller 23-1 and the process controller 23-2, when an interrupt occurs in drawing 23 (a) As shown in drawing 23 (b), a system manager If GUI of an interruption working-level month is operated as other process controllers are operated and being explained by drawing 24 by the interruption manager, and interruption is cleared after that, it will be recognized and flow will be returned to the original flow at the time of the interruption clearance in drawing 23 (a).

[0047] Next, based on drawing 25 thru/or drawing 28, the procedure of creation of an operating flow, modification, deletion, and an addition is explained.

[0048] As shown in drawing 25, in case an operating flow is created, a setting screen is displayed first and an operating flow management screen is started. Next, a demand flow is chosen, further, addition of a flow, modification, or deletion is performed and the result is saved. An activity is completed, after checking the contents

of the flow and ending an operating flow management screen.

[0049] As shown in drawing 26 , in case an operating flow is changed, a setting screen is displayed first and an operating flow management screen is started. Next, a demand flow is chosen, further, the item number of a flow is chosen, business is chosen and the result is saved until a modification item is lost. An activity is completed, after checking the contents of the flow and ending an operating flow management screen.

[0050] As shown in drawing 27 , in case an operating flow is deleted, a setting screen is displayed first similarly and an operating flow management screen is started. Next, a demand flow is chosen and a flow is deleted. An activity is completed, after checking the contents of the flow and ending an operating flow management screen.

[0051] As shown in drawing 28 , in case an operating flow is added, a setting screen is first displayed like before and an operating flow management screen is started. Next, a demand flow is chosen and a new flow is displayed further. Then, the item number of a flow is chosen, business is chosen and the result is saved until a modification item is lost. The name of the flow is created, and an activity is completed, after checking the contents of the flow and ending an operating flow management screen.

[0052] Next, the example in the case of setting up, changing and deleting an operating flow by the system concerning the invention in this application based on the screen concretely displayed on the display 3 (drawing 1) is explained concretely, referring to drawing 29 thru/or drawing 31 . First, the body 2 (drawing 1) of a personal computer is started, and the main menu screen shown in a display 3 (drawing 1) at drawing 29 is called. This is a setting screen. A screen called "setup which exists in the middle of the right-hand side of this screen / "a setup of a terminal and a setup of business" shown in drawing 30 when special" is clicked in addition to this is called. The case where the primitive operation shown as ** from ** as primitive operation is set up there is shown. Moreover, as shown in drawing 31 , ** usual business is usually set to business. On this screen, an operating flow can be set up for every terminal unit. If it clicks "sequence edit and selection are performed" here, it will move to the screen of drawing 32 . Here, an item can be chosen and redo of edit, new creation of an operating flow, etc. can be performed. As shown in drawing 33 , in that case "Connecting the last screen here", "addition of degree screen", As the screen in which "addition of a front screen", "modification of this screen name", "deletion of this screen", and "cancellation" are shown is displayed, and a required activity is chosen out of it and it is shown in drawing 34 The floating window which shows "screen name selection of business" by which the business name was listed is displayed, the screen name of business is chosen from the inside if needed, and it is made to decide. If the screen for decision is displayed as shown in drawing 35 , an operating flow name can be saved by it. The operating flow chosen when the screen which deletes a flow was displayed as shown in drawing 36 , and "[F1] which deletes a flow" was pushed there can be deleted.

[0053] Next, the case where the set-up operating flow is used is explained.

[0054] As shown in drawing 37 , in performing an operating flow, in the system concerning the invention in this application, it is chosen whether it is the 1st system startup of the day or it is activation of a routine work, and whether it is the case where a system is ended after the time of operating termination.

[0055] In the case of the 1st system startup of the day, an operating flow is performed until it performs first the 1st system startup of the day which performs business and a flow item is completed, as shown in drawing 38 . It will interrupt between them and business will occur, and when it is the business outside a flow, a selection screen is displayed and data are inputted, and if it is O.K., interruption will be completed and it will return to a continuation of the original flow. When it is completed, it returns and ends to a main menu display.

[0056] In performing a routine work by the operating flow, as shown in drawing 39 , a main menu is displayed and it performs the flow of a routine work till operating termination. An interrupt occurs in the meantime, and when it is the business besides a flow, a selection screen is displayed, data are inputted and it returns to the original flow. When the business besides a routine work occurs after that, other business is performed, and it returns and ends to the loop formation of the original business.

[0057] When ending a system after setting operating end time and performing an operating flow, it is chosen, and it works until a flow item is completed first, as shown in drawing 40 . An interrupt occurs in the meantime, if it is the business besides a flow, a selection screen will be displayed, data are inputted, and if it is O.K., return and a system will be ended to the original flow business.

[0058] In changing an operating flow manually, as shown in drawing 41 , a main menu is displayed and it starts an operating change screen. The operating flow which had the demand from the screen is chosen, if it is O.K., business will be updated and an activity will be terminated.

[0059] In the case of the 1st system startup of the day which works, the application initial screen shown in the screen of a display 3 (drawing 1) at drawing 42 is displayed. This time, "today's business is started from this. "day

-- is automatic activation of operating [degree] initiation processing" carried out? " -- ** -- since it is displayed, if "yes" is chosen, the main menu shown in drawing 43 will be displayed. this screen bottom -- 5. 4. 3. 2. "1. the often used screen", "registration-of-patient relation", "accounting operating relation", "document printing", and "reservation relation" -- and -- "-- setting/-- in addition to this -- specially -- " -- ** -- the displayed tab page is set up. The tab page of "the often used screen [1.]" is displayed on drawing 43 , and feature buttons, such as "patient retrieval", "patient information edit", and "window accounting", are set up there. Here, if the menu management screen shown in drawing 44 is called, in the screen, the name of a feature button, the color of a carbon button, etc. can be changed. Selection of "modification of the color of a carbon button" displays the floating palette for selection of a color, as shown in drawing 45 . A color can be freely set up by it. If a list of the screen shown in drawing 46 is opened, the business assigned to a feature button can be chosen.

[0060] If it returns to the menu screen shown in drawing 43 again and "window accounting" is pushed out of the feature button of the screen bottom, the screen for the window accounting of drawing 47 will be opened. If the amount of money is inputted into the blank displayed on it, the amount billed can be calculated and displayed, and liquidation processing can be performed by that cause, and a receipt can also be printed. If the carbon button of O.K. is pushed here, it will progress to the activity set as the degree automatically.

[0061] In changing business, it displays the screen for an operating change shown in drawing 48 .

[0062] when consultation hours pass, as shown in drawing 49 , an errand end screen displays on a menu screen automatically -- having -- thereby -- Japanese -- the post process of degree business can be performed and automatic activation can be continued if needed.

[0063]
[Effect of the Invention] Since according to the invention in this application it had the system manager and architecture of a flexible frame system was mounted, a setup and recombination of the flow of original business can be freely performed for every hospital. Moreover, since the flow of the business is automated, business can be standardized and the leakage in processing and an operation mistake can be prevented. Moreover, a setup and recombination of the flow of business original with a hospital can be performed freely.

[0064] Moreover, since the reconstruction function by the system manager is carried according to the invention in this application For example, the change in the number of a chair or a personal computer, the number of medical practitioners, the number of hygienists, the number of technicians, the contents of the Ruhr observed when carrying out Innai business from elements, such as a difference of a therapy way, in the number of assistants and each role assignment, medical-examination Japan and closing-the-office Japan, consultation hours and closing-the-office time amount, and a medical-examination plan list, and the changing element, and the process of an activity -- a high speed -- it can change and specify flexibly and briefly.

[0065] Furthermore, other activities can be interrupted while doing one activity.

[Translation done.]

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TECHNICAL FIELD

[Field of the Invention] Especially the invention in this application relates to the administrative system of the Innai business, such as a hospital, a hospital, and a dental clinic, about an operating managerial system.

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PRIOR ART

[Description of the Prior Art] Management of the business of a hospital etc. has management of a workflow, management of medical-examination information, accounting control, etc., and these are performed using the established computer program. As for the conventional program, the user cannot change the contents.
[0003] For this reason, when the system for the conventional Innai business management was used, it was applying so that the Innai business might be doubled with the function which that system offers. When a part of business was not able to be doubled with the function which carries out a system distribution, the system was customized according to the individual and it was supported. Moreover, when adaptation of a system and a work breakdown was not able to be aimed at, the system was newly built or the flow of the business in a hospital was changed.
[0004] Moreover, since one business consists of combination of two or more activities in many cases, he is trying to display on a display the menu screen which lists two or more activities by list form, or arranges two or more one icons showing one activity according to the number of activities in the conventional system. And in performing business, after choosing the first activity from two or more activities about the business, developing the screen about the activity and completing the activity from the menu screen As return to a menu screen again, and choose the next activity, it is made to develop and the activity is done, after choosing the item of another activity which should return to the menu screen and should be performed to a degree, terminating the activity and completing the activity Whenever it worked, selection of the item of the activity from a menu screen, activation of the contents shown in the item of the activity, termination of an activity, the display of a menu screen, and the next activity were chosen, and one business was processed. When another business was performed, the same procedure was performed also about the business.

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EFFECT OF THE INVENTION

[Effect of the Invention] Since according to the invention in this application it had the system manager
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original business can be freely performed for every hospital. Moreover, since the flow of the business is
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[0064] Moreover, since the reconstruction function by the system manager is carried according to the
invention in this application For example, the change in the number of a chair or a personal computer,
the number of medical practitioners, the number of hygienists, the number of technicians, the contents of
the Ruhr observed when carrying out Innai business from elements, such as a difference of a therapy
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list, and the changing element, and the process of an activity -- a high speed -- it can change and specify
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TECHNICAL PROBLEM

[Problem(s) to be Solved by the Invention] Customize and construction of a new system require time amount to completion, and costs also become huge. Moreover, since it is necessary to change a system each time with modification of staff and facility / medical-examination plan of a hospital etc., or change of the environment outside a hospital, the time amount and cost for it increase. The trade-off with time amount and cost does not lead to fundamental solution of those problems.
[0006] Furthermore, for example, since the environments and medical-examination plans of Innai, such as a dental clinic, differ from each other separately, the medical practitioner and the person in charge of business management itself are wanted to be able to customize easily the optimal workflow for those environments and medical-examination plans.
[0007] Moreover, the operator needed to choose in order the item of the activity displayed on the menu screen, business needed to be performed, and whenever it works, in order to have to return to a menu screen for selection of a work item, activation of business has made it complicated. Moreover, since there is no relevance in the work item displayed on the menu screen, it may be forgotten for an operator to be mistaken in the sequence of a work item, or to choose some of activities. Consequently, the activity might have to be redone anew.
[0008] Furthermore, when a certain activity is being done and other activities must be done, the activity under activation must be terminated and a menu screen must be displayed. And after choosing the activity which should newly be done from the menu screen, doing the activity and completing the activity, it needed to return to the menu screen, the activity which was being done before needed to be chosen, the activity needed to be redone, and it was very complicated.

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MEANS

[Means for Solving the Problem] In order to solve such a problem, the invention in this application offers an operating managerial system equipped with the system control section, a storage means, a display means, an input means, and an information processing means. The information processing means is characterized by what it has a system manager and a functional module and the demand inputted from the input means is answered, and an operating flow is set up, changed or rearranged, and an operating flow is saved for a storage means, and is displayed on an account display means when a system manager combines a functional module. A functional module can contain an application data and an application component. Moreover, a functional module can also contain a process controller and a graphical interface. Further, the operating managerial system concerning the invention in this application is equipped with a graphical user interface, answers the demand inputted from the input means, and a system manager can set up an operating flow combining an application component and a graphical user interface, and can change it, or it can be rearranged.
[0010] Moreover, it consists of two or more business management equipments with which each is equipped with an information processing means and this information processing means, and a shared data storage means, an information processing means is equipped with a system manager and a functional module, and the invention in this application offers the operating managerial system to which two or more business management equipments of each other were connected. The system manager enables it to perform the same operating flow as the operating flow of the system manager who functions with other business management equipments by constituting the same operating flow as the operating flow of the system manager who functions with other business management equipments combining a functional module, and using the data of a shared data storage means. A functional module is equipped with an application component and a graphical user interface, answers the demand inputted from the input means, and a system manager can set up an operating flow combining an application component and a graphical user interface, and can change it, or it can be rearranged.
[0011] Furthermore, after the invention in this application is an operating managerial system equipped with the system control section, a storage means, a display means, an input means, and an information-processing means, and an information-processing means is equipped with a system manager, and a system manager answers the interrupt request inputted from the input means, interrupt the operating flow under activation, perform an operating flow with a demand and business is completed, the operating managerial system which resumes the operating flow which had interrupted provides. Further, an information processing means is equipped with a functional module and a graphical user interface, answers the demand inputted from the input means between interruption processings, and a system manager can set up an operating flow combining a functional module and a graphical user interface, and can change it, or it can be rearranged.
[0012] The invention in this application is an operating managerial system equipped with the system control section, a storage means, a display means, an input means, and an information processing means. An information processing means With furthermore, a system manager The database containing an application data and an application component, A process controller and the flexible frame which consists of a program of a large number corresponding to each of an operating process, If it has a graphical user interface and this system is started, while loading a flexible frame and an application data to a storage means, a process controller Answer the demand inputted from the input means, store the copy of an application data and an application component in a flexible frame from a database, and a flexible frame is memorized for a storage means. When a demand is advanced by one of the methods of a process controller The copy of the application data memorized by the storage means and an application component is used, and the operating managerial system with which a database becomes unnecessary [giving an application data and an application component directly] is offered.

[0013]
[Embodiment of the Invention] Drawing 1 shows the operating administrative equipment 1 used for the system concerning the invention in this application. Here, although the example at the time of using operating administrative equipment 1 as business management equipment for dental clinics is explained, the system concerning the invention in this application is not limited to dental clinics. This equipment 1 becomes the keyboard 4 and mouse 5 list as the body 2 of a personal computer, the display 3 as an indicating equipment, and an input device from the printer 6 as an output unit.

[0014] Drawing 2 shows the block diagram of the equipment. As shown in drawing 2 , the body 2 of a personal computer is equipped with the memory 11, the input unit control section 12, the display control section 13, the airline printer control section 14, and the file section 15 as the system control section 10 and a storage means. The input device of a keyboard 4 and mouse (or pointing device) 5 grade is connected to the input-device control section 12, and a display 3 is connected to the display control section 13, and the printer 6 is connected to the airline printer control section 14.

[0015] Drawing 3 is drawing for explaining the concept of the information processing system for dentistries. The information processing system for dentistries can operate on the equipment 1 shown in drawing 1 , and can perform business of various information processing in a dental clinic, for example, the input of the contents of a therapy, issue of a medical statement, sharing golden processing of a window, and others. In the information processing system for dentistries, a user can perform layout design of a menu and can also use other operating functions.

[0016] Drawing 4 is drawing for explaining the concept of a menu layout design. This drawing explains the behavior to the user of a system. Behavior of a system is surrounded with the ellipse all over drawing. They are attained by combining or changing a functional module. In it, a user is directly provided with five functions of "a tab name is defined", "a button function being defined", "a carbon button name being defined", "a carbon button color being defined", and "defining carbon button arrangement" by the menu layout design function. It is generalized ["a feature button is managed" and] in 4 of functions [them], i.e., "a button function is defined", "a carbon button name being defined", "a carbon button color being defined", and "carbon button arrangement being defined", and is generalized ["a menu is managed" and] further. "Management of a layout tooth space" is included ["a menu is managed" and].

[0017] Moreover, it is generalized ["a tab page is managed" and] in "a tab name is defined", and is generalized ["a menu is managed" and] further.

[0018] In drawing 4 , the system manager who exists outside the limit of a "menu layout design" manages all the functions that a menu layout design has by managing the behavior of "managing a menu." Thereby, even when it has scheduler ability and a number and locations (operating layout), such as PC, are changed about business, the operating managerial system concerning the invention in this application can reconstruct a system, and can respond to it easily. Moreover, while processing one business, other business can be wedged and can be performed.

[0019] Drawing 5 is drawing expressing the relation and the element of the class used by the menu layout design function shown in drawing 4 . A "system manager" manages the whole system, cooperating with "other managers", and has the relation of the "layout tooth space" and one to one which are used by the menu layout design function. Even 1 to seven [a maximum of] of a "tab page" relate to a "layout tooth space." Moreover, a "feature button" is related by from 1 to a maximum of 12 to one of "the tab pages." All of these numbers are instantiation and they are not limited to them.

[0020] Drawing 6 is drawing expressing the flow of a system until a menu is displayed at the time of a system startup. As shown in drawing, menu screens will differ by the case where it is not customized with the case where the menu is customized by the user. That is, if a system starts and a menu display is started, when not being customized, reading of a standard definition is performed and a standard menu is displayed. When customized, reading of a menu definition is carried out and the custom-made menu which met the definition next is indicated.

[0021] Drawing 7 is drawing for explaining the time interaction of each object. This drawing expresses the time interaction of the object inside the system generated, respectively by three kinds of events when a user clicks a click and another page of a system startup and a standard carbon button. "GUI (menu screen)" lining up side-by-side shown above [in drawing], a "system manager", a "layout tooth space", a "tab page", a "feature button", and a "function" express the object to generate. In this drawing, it goes caudad from the upper part, the passage of time is expressed, and the description which accompanies the arrow head between objects and it expresses the message from an object to an object. This expresses the exchange of the message between objects, and the time timing of generation. The timing of an exchange of the message between those objects is explained below along with drawing 8 thru/or drawing 10 .

[0022] Drawing 8 is drawing for explaining the configuration-interaction of each object at the time of a system startup. Especially this drawing is drawing which took out only the event of "time of system startup ()" shown in drawing 7, and applied and expressed the focus in the configuration of the object in that case. This drawing shows that the exchange of a message is performed between objects focusing on a system manager. That is, if a user does "1 System startup ()", "GUI (menu screen)" will be generated and the message "() which displayed two menus" will be sent to a system manager from the object. Then, from a system manager, the message of "layout tooth-space display 3 ()" is sent to a "layout tooth space", then the message of "tab page display 4 ()" is sent for sending, and the message of "5 carbon button display ()" is sent to a "feature button" at a "tab page." Then, the message of "completion of 6 displays ()" is sent to a system manager from a "feature button", and, thereby, a system manager sends the message of "7 starting preparation-completion ()" to a "function."

[0023] Drawing 9 is drawing for explaining the configuration-interaction of each object when a user clicks a feature button. Especially this drawing is drawing which took out only the event of "carbon button click ()" shown in drawing 7, and applied and expressed the focus in the configuration of the object in that case. This drawing shows that the exchange of a message is performed between objects focusing on a system manager. That is, if a user does "1 Feature button click ()", "GUI (menu screen)" will be generated and the message " () which clicked two carbon buttons" will be sent to a system manager from the object. Then, from a system manager, the message of "activation [of three functions] ()" is sent to a "function", on the other hand the message of "termination of four functions" is sent to a system manager from a "function."

[0024] Drawing 10 is drawing for explaining the configuration-interaction of each object when a user clicks another page. Especially this drawing is drawing which took out only the event of "being another page Click ()" shown in drawing 7, and applied and expressed the focus in the configuration of the object in that case. This drawing also shows that the exchange of a message is performed between objects focusing on a system manager. that is, a user -- "1 -- in another page, if click ()" is carried out, "GUI (menu screen)" will be generated and the message "2 () which clicked another page" will be sent to a system manager from the object. then, the "tab page" from a system manager -- "3 -- another page is sent in the message of display ()", and the message of "display [of four carbon buttons] ()" is further sent to a "feature button." On the other hand, from a "feature button", the message of "the completion of 5 displays" is sent to a system manager.

[0025] Drawing 11 to drawing 20 is drawing explaining the work flow at the time of a user customizing a menu screen. A system manager manages all of these activities.

[0026] Drawing 11 is drawing for explaining the flow of actuation at the time of doing the activity "defines a tab name" in order that a user may customize a menu screen using input devices, such as a mouse and a keyboard. As shown in drawing, a user starts a menu management screen first. Next, the tab to define is chosen and a tab name is defined. Decision of the modification records modification. An activity will be completed if a management screen is closed. If a menu screen is started and "an activity termination" is chosen immediately, an activity will be ended at the time. Also when the modification is stopped after changing the definition of a tab name, an activity is ended at the time.

[0027] Drawing 12 is drawing for explaining the state transition of the system at the time of doing the activity which was explained by drawing 11 and "which defines a tab name." if a menu management screen is started as shown in drawing -- "-- it shifts to menu definition waiting." If the tab to define is chosen, it will shift to "the waiting for tab renaming." If renaming is started, it will come "into renaming", if a definite carbon button is clicked, it will shift "during modification record", and the activity will be completed if record termination is chosen. on the other hand -- "-- if an activity termination is chosen as menu definition waiting", an activity will be ended at the time. Moreover, also when a modification termination is chosen in the condition "in renaming", an activity is ended at the time.

[0028] Drawing 13 is drawing for explaining the flow of actuation at the time of doing the activity "defines a carbon button color" in order that a user may customize a menu screen. As shown in drawing, a user starts a menu management screen first. Next, the carbon button to define is chosen and a carbon button color is defined. Decision of the modification records modification. An activity will be completed if a management screen is closed. If a menu screen is started and "an activity termination" is chosen immediately, an activity will be ended at the time. Also when the modification is stopped after changing the definition of a carbon button color, an activity is ended at the time.

[0029] Drawing 14 is drawing for explaining the state transition of the system at the time of doing the activity which was explained by drawing 13 and "which defines a carbon button color." if a menu management screen is started as shown in drawing -- "-- it shifts to menu definition waiting." If the carbon button to define is chosen, it

will shift to "the waiting for carbon button definition modification." Then, if a color palette is started, it will come "during carbon button color modification", if a definite carbon button is clicked, it will shift "during modification record", and the activity will be completed if record termination is chosen. on the other hand -- "-- if an activity termination is chosen as menu definition waiting", an activity will be ended at the time. Moreover, also when a modification termination is chosen in the condition "under carbon button color modification", an activity is ended at the time.

[0030] Drawing 15 is drawing for explaining the flow of actuation at the time of doing the activity "defines a button function" in order that a user may customize a menu screen. As shown in drawing, a user starts a menu management screen first. Next, the carbon button to define is chosen and a button function is defined. Decision of the modification records modification. An activity will be completed if a management screen is closed. If a menu screen is started and "an activity termination" is chosen immediately, an activity will be ended at the time. Also when the modification is stopped after changing the definition of a carbon button color, an activity is ended at the time.

[0031] Drawing 16 is drawing for explaining the state transition of the system at the time of doing the activity which was explained by drawing 15 and "which defines a button function." if a menu management screen is started as shown in drawing -- "-- it shifts to menu definition waiting." If the carbon button to define is chosen, it will shift to "the waiting for carbon button definition modification." Then, if the function of a carbon button is chosen, it will come "during button function modification", if a definite carbon button is clicked, it will shift "during modification record", and the activity will be completed if record termination is chosen. on the other hand -- "-- if an activity termination is chosen as menu definition waiting", an activity will be ended at the time. Moreover, also when a modification termination is chosen in the condition "under button function modification", an activity is ended at the time.

[0032] Drawing 17 is drawing for explaining the flow of actuation at the time of doing the activity "defines carbon button arrangement" in order that a user may customize a menu screen. As shown in drawing, a user starts a menu management screen first. Next, the feature button to be used is determined, next the arrangement page of a carbon button is specified, and the arrangement location of a carbon button is specified further. Decision of the modification records modification. An activity will be completed if a management screen is closed. If a menu screen is started and "an activity termination" is chosen immediately, an activity will be ended at the time. Also when the modification is stopped after specifying a carbon button arrangement location and changing the assignment till then etc., an activity is ended at the time.

[0033] Drawing 18 is drawing for explaining the state transition of the system at the time of doing the activity which was explained by drawing 17 and "which defines carbon button arrangement." if a menu management screen is started as shown in drawing -- "-- it shifts to menu definition waiting." if it will shift to "the selection waiting of a page" if the carbon button to be used is chosen, it will shift to "the arrangement waiting of a carbon button" if a page is specified, and an arrangement location is specified -- "-- it shifts to definite waiting." Then, if a definite carbon button is clicked, it will shift "during modification record", and the activity will be completed if record termination is chosen. on the other hand -- "-- if an activity termination is chosen as menu definition waiting", an activity will be ended at the time. moreover -- "-- also when a modification termination is chosen in the condition of definite waiting", an activity is ended at the time.

[0034] Drawing 19 is drawing for explaining the flow of actuation at the time of doing the activity "defines a carbon button name" in order that a user may customize a menu screen. As shown in drawing, a user starts a menu management screen first. Next, the carbon button which changes a name is chosen and a carbon button name is defined. Decision of the modification records modification. An activity will be completed if a management screen is closed. If a menu screen is started and "an activity termination" is chosen immediately, an activity will be ended at the time. Also when the modification is stopped after changing the definition of a carbon button name, an activity is ended at the time.

[0035] Drawing 20 is drawing for explaining the state transition of the system at the time of doing the activity which was explained by drawing 19 and "which defines a carbon button name." if a menu management screen is started as shown in drawing -- "-- it shifts to menu definition waiting." If the carbon button which changes a name is chosen, it will shift to "the waiting for a carbon button definition." Then, if renaming initiation is chosen, it will come "into renaming of a carbon button", if a definite carbon button is clicked, it will shift "during modification record", and the activity will be completed if record termination is chosen. on the other hand -- "-- if an activity termination is chosen as menu definition waiting", an activity will be ended at the time. Moreover, also when a modification termination is chosen in the condition "in renaming of a carbon button", an activity is ended at the

time.

[0036] Drawing 21 is a flow chart for working modification of the location of the above-mentioned menu button etc. with a menu management screen. In case menu management is performed, first, a setting screen is displayed and a menu management screen is started. If it does not cancel at the time, it shifts to the activity of changing the color of a carbon button. When preservation is chosen after making the change, the changed contents are saved. The activity is completed after ending a menu management screen.

[0037] Drawing 22 shows the work flow in the case of changing the location of a menu button in the case of menu management in drawing 21 . First, a setting screen is displayed and a menu management screen is started. If it does not cancel at the time, and it shifts to selection of the location of a carbon button and the selection is performed, the carbon button after modification will be displayed. In changing the location of other carbon buttons, according to the demand, it repeats selection of the location of a carbon button. The activity is completed, after saving the data after the modification and ending a menu management screen.

[0038] Drawing 23 (a) is drawing for explaining a system manager's function. A system manager has an event manager, a status manager, a process controller, and a message controller, and controls these conditions. In the system concerning the invention in this application, all application components called the application data which are all the elements of each operating process which constitutes a workflow, the metadata (data for managing data) which manages an application data, form, a list, an object, and a property are saved in the database. A process controller is equivalent to each of virtual program data, and can operate variable data.

[0039] If the program which constitutes a system is started as shown in drawing 24 , a process controller loads the structure which consists of much the programs and data corresponding to each of the operating process called a flexible frame to memory. Furthermore, a process controller answers a demand, stores the copy of data and an application component in a flexible frame from a database, and memory is made to memorize it. If a demand is advanced from one of the methods of a process controller when a flexible frame is saved in memory in this condition, the copy of that data and application component that were memorized by memory and that were demanded will be used, and it will become unnecessary that a database gives that demanded data and application component to a direct program. Consequently, the overhead of access of a database can be decreased now.

[0040] Actuation of GUI from the method of the process controller corresponding to each operating process is operated as follows through a flexible frame so that drawing 24 may show. ** Create association of GUI from a process controller. ** Create association to a process controller from GUI. ** Process the message from GUI to a process controller. It explains briefly [below] about these.

[0041] First, in order to create association of GUI from a process controller, the method of process control stores the handle of GUI in a flexible frame. The GUI handle acquired by this approach is used in order to specify GUI which corresponds by various methods of a process controller.

[0042] Next, in order to create association to a process controller from GUI, correlation with a process controller from specified GUI is carried out. This correlation is performed when the method of a process controller acquires "refer to [of a process controller] the object" to GUI to a GUI generate time. Referring to [which was acquired] the object is stored in a flexible frame, and other methods perform correlation with a process controller from GUI by changing a GUI handle into refer to [of a process controller] the object using the upper part.

[0043] In the program concerning the invention in this application, as shown in drawing 24 , in case correlation with a process controller and GUI is performed through a flexible frame, the device of flexible frame relation cypripedium is used. The flexible frame relation cypripedium is the device in which receive the message from GUI by the simple procedure, and the method of an object is once called from there.

[0044] Moreover, message processing from GUI to a process controller is performed as follows. First, if GUI arrives from the address of the GUI procedure of GUI stored in the flexible frame, a process controller will pass a message to the message-processing handler which this address shows. Next, a process controller generates flexible frame relation cypripedium. Flexible frame relation cypripedium operates with two complementary codes. Moreover, the method pointer is stored in flexible frame relation cypripedium, and if flexible frame relation cypripedium is called, flexible frame relation cypripedium will call a complementary code. A complementary code puts the pointer to a method pointer into a register, in order to pop up a return value. Next, a complementary code calls a function and calls the method of the object which looks at the method pointer which a register points out and a method pointer shows.

[0045] Thus, a message can be directly sent now to the method of a process controller from GUI by making the structure which sets flexible frame relation cypripedium to a GUI procedure as a GUI procedure of GUI.

[0046] As shown between the process controller 23-1 and the process controller 23-2, when an interrupt occurs in

drawing 23 (a) As shown in drawing 23 (b), a system manager If GUI of an interruption working-level month is operated as other process controllers are operated and being explained by drawing 24 by the interruption manager, and interruption is cleared after that, it will be recognized and flow will be returned to the original flow at the time of the interruption clearance in drawing 23 (a).

[0047] Next, based on drawing 25 thru/or drawing 28 , the procedure of creation of an operating flow, modification, deletion, and an addition is explained.

[0048] As shown in drawing 25 , in case an operating flow is created, a setting screen is displayed first and an operating flow management screen is started. Next, a demand flow is chosen, further, addition of a flow, modification, or deletion is performed and the result is saved. An activity is completed, after checking the contents of the flow and ending an operating flow management screen.

[0049] As shown in drawing 26 , in case an operating flow is changed, a setting screen is displayed first and an operating flow management screen is started. Next, a demand flow is chosen, further, the item number of a flow is chosen, business is chosen and the result is saved until a modification item is lost. An activity is completed, after checking the contents of the flow and ending an operating flow management screen.

[0050] As shown in drawing 27 , in case an operating flow is deleted, a setting screen is displayed first similarly and an operating flow management screen is started. Next, a demand flow is chosen and a flow is deleted. An activity is completed, after checking the contents of the flow and ending an operating flow management screen.

[0051] As shown in drawing 28 , in case an operating flow is added, a setting screen is first displayed like before and an operating flow management screen is started. Next, a demand flow is chosen and a new flow is displayed further. Then, the item number of a flow is chosen, business is chosen and the result is saved until a modification item is lost. The name of the flow is created, and an activity is completed, after checking the contents of the flow and ending an operating flow management screen.

[0052] Next, the example in the case of setting up, changing and deleting an operating flow by the system concerning the invention in this application based on the screen concretely displayed on the display 3 (drawing 1) is explained concretely, referring to drawing 29 thru/or drawing 31 . First, the body 2 (drawing 1) of a personal computer is started, and the main menu screen shown in a display 3 (drawing 1) at drawing 29 is called. This is a setting screen. A screen called "setup which exists in the middle of the right-hand side of this screen / "a setup of a terminal and a setup of business" shown in drawing 30 when special" is clicked in addition to this is called. The case where the primitive operation shown as ** from ** as primitive operation is set up there is shown. Moreover, as shown in drawing 31 , ** usual business is usually set to business. On this screen, an operating flow can be set up for every terminal unit. If it clicks "sequence edit and selection are performed" here, it will move to the screen of drawing 32 . Here, an item can be chosen and redo of edit, new creation of an operating flow, etc. can be performed. As shown in drawing 33 , in that case "Connecting the last screen here", "addition of degree screen", As the screen in which "addition of a front screen", "modification of this screen name", "deletion of this screen", and "cancellation" are shown is displayed, and a required activity is chosen out of it and it is shown in drawing 34 The floating window which shows "screen name selection of business" by which the business name was listed is displayed, the screen name of business is chosen from the inside if needed, and it is made to decide. If the screen for decision is displayed as shown in drawing 35 , an operating flow name can be saved by it. The operating flow chosen when the screen which deletes a flow was displayed as shown in drawing 36 , and "[F1] which deletes a flow" was pushed there can be deleted.

[0053] Next, the case where the set-up operating flow is used is explained.

[0054] As shown in drawing 37 , in performing an operating flow, in the system concerning the invention in this application, it is chosen whether it is the 1st system startup of the day or it is activation of a routine work, and whether it is the case where a system is ended after the time of operating termination.

[0055] In the case of the 1st system startup of the day, an operating flow is performed until it performs first the 1st system startup of the day which performs business and a flow item is completed, as shown in drawing 38 . It will interrupt between them and business will occur, and when it is the business outside a flow, a selection screen is displayed and data are inputted, and if it is O.K., interruption will be completed and it will return to a continuation of the original flow. When it is completed, it returns and ends to a main menu display.

[0056] In performing a routine work by the operating flow, as shown in drawing 39 , a main menu is displayed and it performs the flow of a routine work till operating termination. An interrupt occurs in the meantime, and when it is the business besides a flow, a selection screen is displayed, data are inputted and it returns to the original flow. When the business besides a routine work occurs after that, other business is performed, and it returns and ends to the loop formation of the original business.

[0057] When ending a system after setting operating end time and performing an operating flow, it is chosen, and it works until a flow item is completed first, as shown in drawing 40 . An interrupt occurs in the meantime, if it is the business besides a flow, a selection screen will be displayed, data are inputted, and if it is O.K., return and a system will be ended to the original flow business.

[0058] In changing an operating flow manually, as shown in drawing 41 , a main menu is displayed and it starts an operating change screen. The operating flow which had the demand from the screen is chosen, if it is O.K., business will be updated and an activity will be terminated.

[0059] In the case of the 1st system startup of the day which works, the application initial screen shown in the screen of a display 3 (drawing 1) at drawing 42 is displayed. This time, "today's business is started from this. "day -- is automatic activation of operating [degree] initiation processing" carried out? " -- ** -- since it is displayed, if "yes" is chosen, the main menu shown in drawing 43 will be displayed. this screen bottom -- 5. 4. 3. 2. "1. the often used screen", "registration-of-patient relation", "accounting operating relation", "document printing", and "reservation relation" -- and -- "-- setting/-- in addition to this -- specially -- " -- ** -- the displayed tab page is set up. The tab page of "the often used screen [1.]" is displayed on drawing 43 , and feature buttons, such as "patient retrieval", "patient information edit", and "window accounting", are set up there. Here, if the menu management screen shown in drawing 44 is called, in the screen, the name of a feature button, the color of a carbon button, etc. can be changed. Selection of "modification of the color of a carbon button" displays the floating palette for selection of a color, as shown in drawing 45 . A color can be freely set up by it. If a list of the screen shown in drawing 46 is opened, the business assigned to a feature button can be chosen.

[0060] If it returns to the menu screen shown in drawing 43 again and "window accounting" is pushed out of the feature button of the screen bottom, the screen for the window accounting of drawing 47 will be opened. If the amount of money is inputted into the blank displayed on it, the amount billed can be calculated and displayed, and liquidation processing can be performed by that cause, and a receipt can also be printed. If the carbon button of O.K. is pushed here, it will progress to the activity set as the degree automatically.

[0061] In changing business, it displays the screen for an operating change shown in drawing 48 .

[0062] when consultation hours pass, as shown in drawing 49 , an errand end screen displays on a menu screen automatically -- having -- thereby -- Japanese -- the post process of degree business can be performed and automatic activation can be continued if needed.

[Translation done.]

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damages caused by the use of this translation.

1.This document has been translated by computer. So the translation may not reflect the original precisely.
2.**** shows the word which can not be translated.
3.In the drawings, any words are not translated.

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]
[Drawing 1] It is drawing showing the outline of the configuration of the operating administrative equipment used for the system concerning the invention in this application.
[Drawing 2] It is the block diagram of the operating administrative equipment concerning drawing 1 .
[Drawing 3] It is drawing for explaining the concept of the information processing system for dentistries.
[Drawing 4] It is drawing for explaining the concept of a menu layout design.
[Drawing 5] It is drawing for explaining the relation and the element of a class which are used by the menu layout design function shown in drawing 4 .
[Drawing 6] It is drawing for explaining the flow of a system until a menu is displayed at the time of stem starting.
[Drawing 7] It is drawing for explaining the time interaction of each object.
[Drawing 8] It is drawing for explaining the configuration-interaction of each object at the time of a system startup.
[Drawing 9] It is drawing for explaining the configuration-interaction of each object when a user clicks a feature button.
[Drawing 10] It is drawing for explaining the configuration-interaction of each object when a user clicks another page.
[Drawing 11] It is drawing for explaining the flow of actuation at the time of doing the activity "defines a tab name" in order that a user may customize a menu screen.
[Drawing 12] It is drawing for explaining the state transition of the system at the time of doing the activity which was explained by drawing 11 and "which defines a tab name."
[Drawing 13] It is drawing for explaining the flow of actuation at the time of doing the activity "defines a carbon button color" in order that a user may customize a menu screen.
[Drawing 14] It is drawing for explaining the state transition of the system at the time of doing the activity which was explained by drawing 13 and "which defines a carbon button color."
[Drawing 15] It is drawing for explaining the flow of actuation at the time of doing the activity "defines a button function" in order that a user may customize a menu screen.
[Drawing 16] It is drawing for explaining the state transition of the system at the time of doing the activity which was explained by drawing 15 and "which defines a button function."
[Drawing 17] It is drawing for explaining the flow of actuation at the time of doing the activity "defines carbon button arrangement" in order that a user may customize a menu screen.
[Drawing 18] It is drawing for explaining the state transition of the system at the time of doing the activity which was explained by drawing 17 and "which defines carbon button arrangement."
[Drawing 19] It is drawing for explaining the flow of actuation at the time of doing the activity "defines a carbon button name" in order that a user may customize a menu screen.
[Drawing 20] It is drawing for explaining the state transition of the system at the time of doing the activity which was explained by drawing 19 and "which defines a carbon button name."
[Drawing 21] It is a flow chart for working modification of the location of the above-mentioned menu button etc. with a menu management screen.
[Drawing 22] In drawing 21 , it is a flow chart for explaining the work flow in the case of changing the location of a menu button in the case of menu management.
[Drawing 23] Drawing 23 (a) is drawing for explaining a system manager's function. Drawing 23 (b) is drawing for explaining the function of the system manager at the time of interrupting.
[Drawing 24] It is drawing for explaining actuation of GUI from the method of a process controller.

[Drawing 25] It is a flow chart for explaining the procedure which creates an operating flow.

[Drawing 26] It is a flow chart for explaining the procedure of changing an operating flow.

[Drawing 27] It is a flow chart for explaining the procedure of deleting an operating flow.

[Drawing 28] It is a flow chart for explaining the procedure of adding an operating flow.

[Drawing 29] It is drawing showing the setting screen displayed on the display.

[Drawing 30] It is drawing showing the screen for a setup of the terminal displayed on the display, and a setup of business.

[Drawing 31] It is drawing showing the screen for a setup of the terminal displayed on the display, and a setup of business.

[Drawing 32] It is drawing showing the screen for modification of the window processing displayed on the display etc.

[Drawing 33] It is drawing showing the screen for modification of the window processing displayed on the display etc.

[Drawing 34] It is drawing showing the screen for modification of the window processing displayed on the display etc.

[Drawing 35] It is drawing showing the screen for modification of the window processing displayed on the display etc.

[Drawing 36] It is drawing showing the screen for modification of the window processing displayed on the display etc.

[Drawing 37] It is the flow chart which shows the procedure at the time of using an operating flow.

[Drawing 38] It is the flow chart which shows the procedure of performing an operating flow at the time of a system startup.

[Drawing 39] It is the flow chart which shows the procedure of performing a routine work by the operating flow.

[Drawing 40] When ending a system after setting operating end time, it is the flow chart which shows the procedure of performing an operating flow.

[Drawing 41] It is the flow chart which shows the procedure at the time of changing an operating flow manually.

[Drawing 42] It is drawing showing the application initial screen shown in the display.

[Drawing 43] It is drawing showing the main menu screen shown in the display.

[Drawing 44] It is drawing showing the menu management screen shown in the display.

[Drawing 45] It is drawing showing the screen at the time of choosing the color shown in the display.

[Drawing 46] It is drawing showing the screen in which a list of the screen shown in the display is shown.

[Drawing 47] It is drawing showing the screen in which the example of window accounting shown in the display is shown.

[Drawing 48] It is drawing showing the operating change screen shown in the display.

[Drawing 49] It is drawing showing the operating end screen shown in the display.
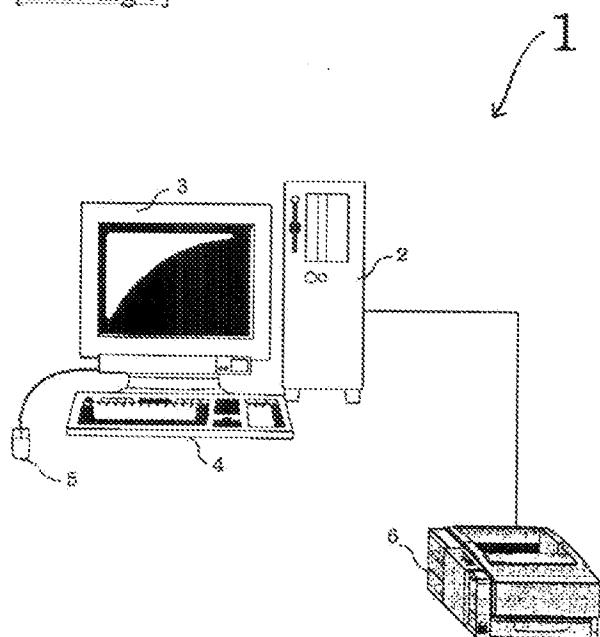
[Translation done.]

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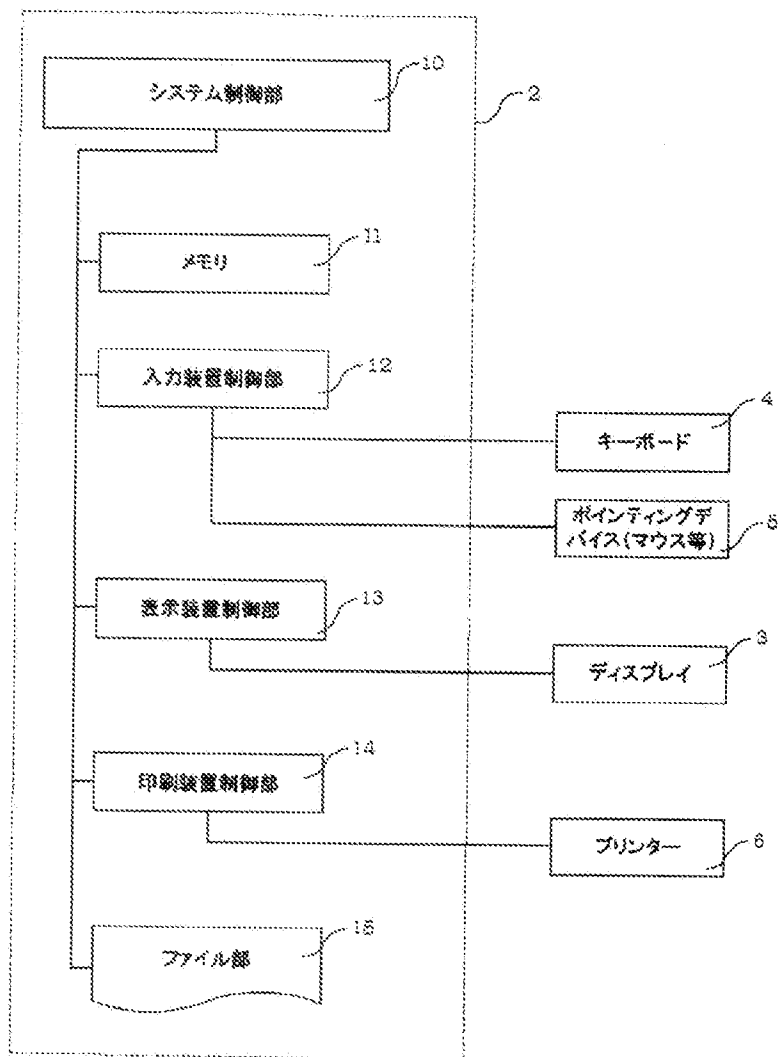damages caused by the use of this translation.

1.This document has been translated by computer. So the translation may not reflect the original precisely.
2.**** shows the word which can not be translated.
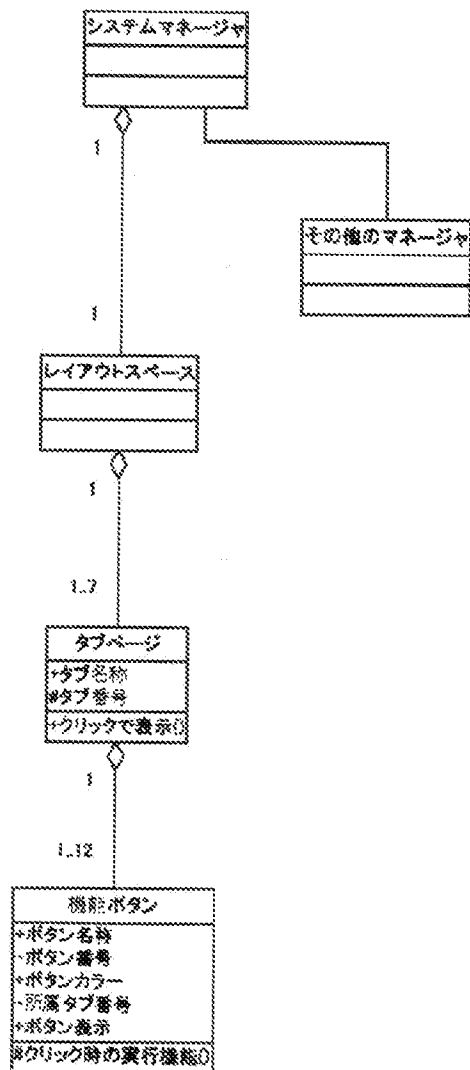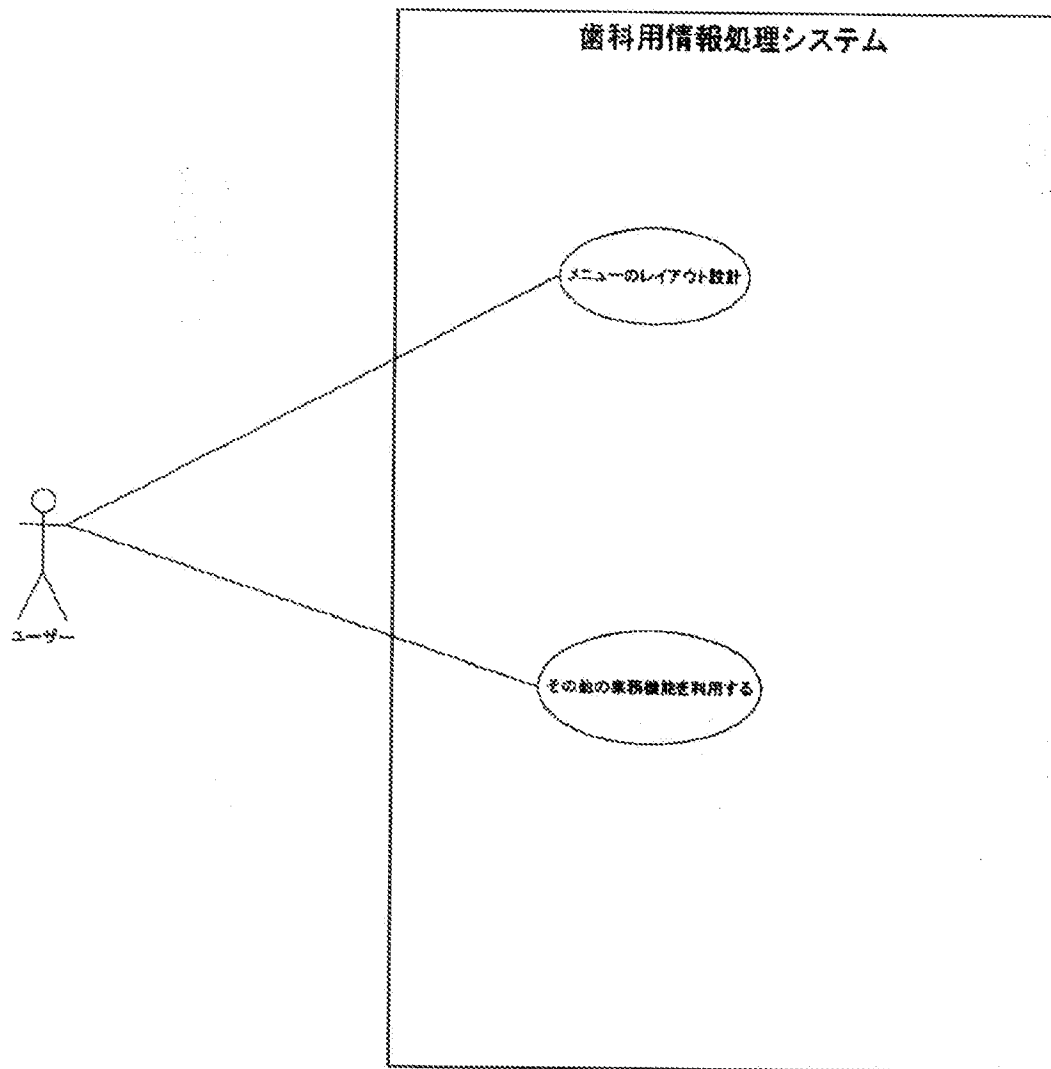3.In the drawings, any words are not translated.

DRAWINGS

[Drawing 1]

[Drawing 2]
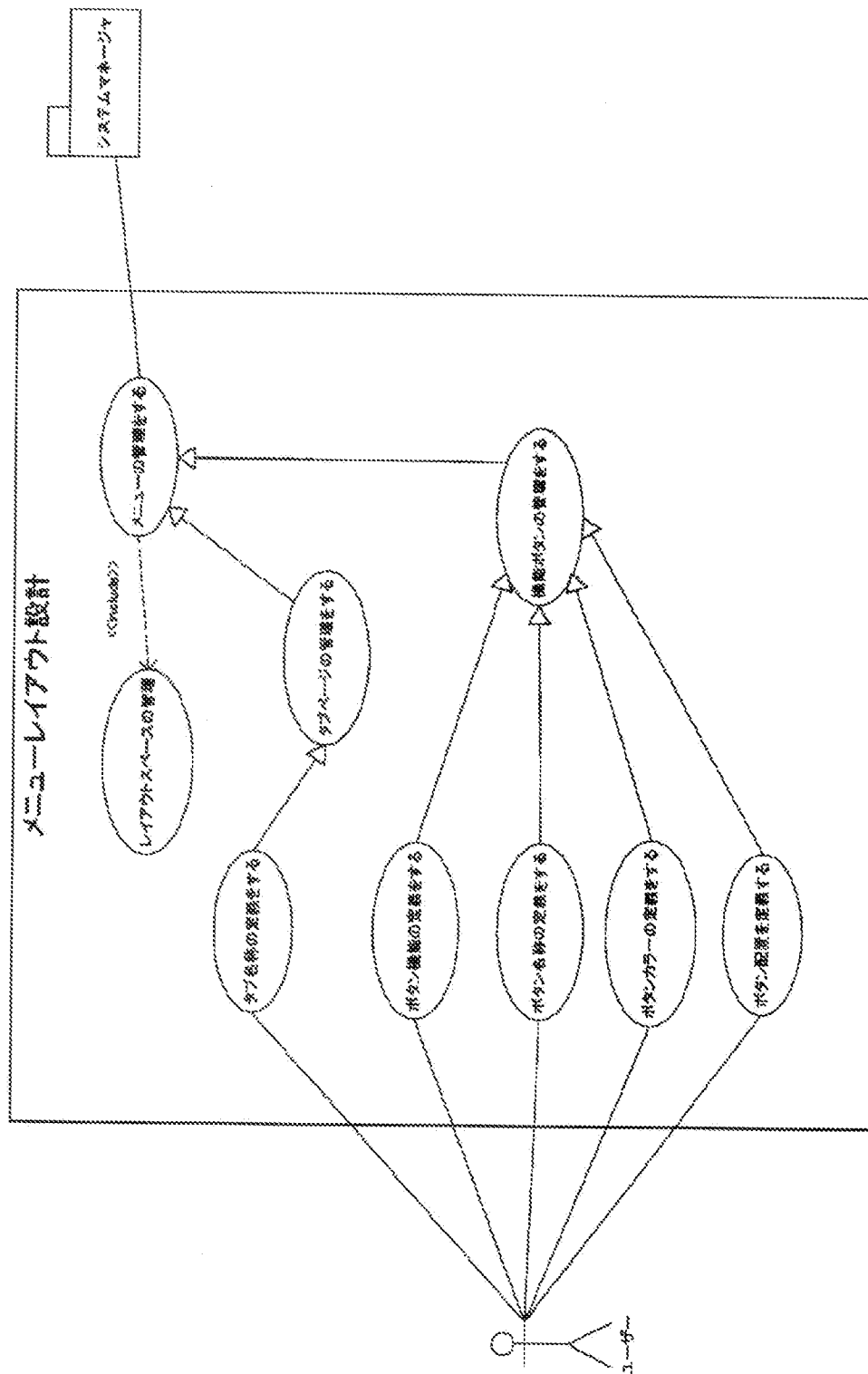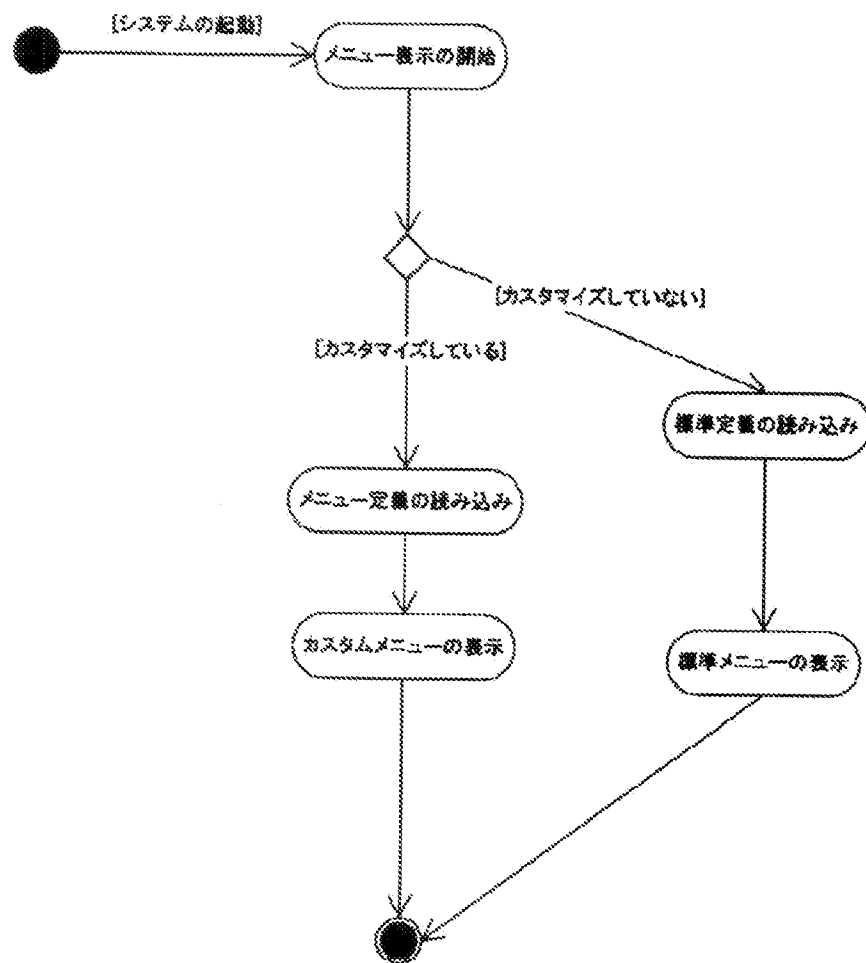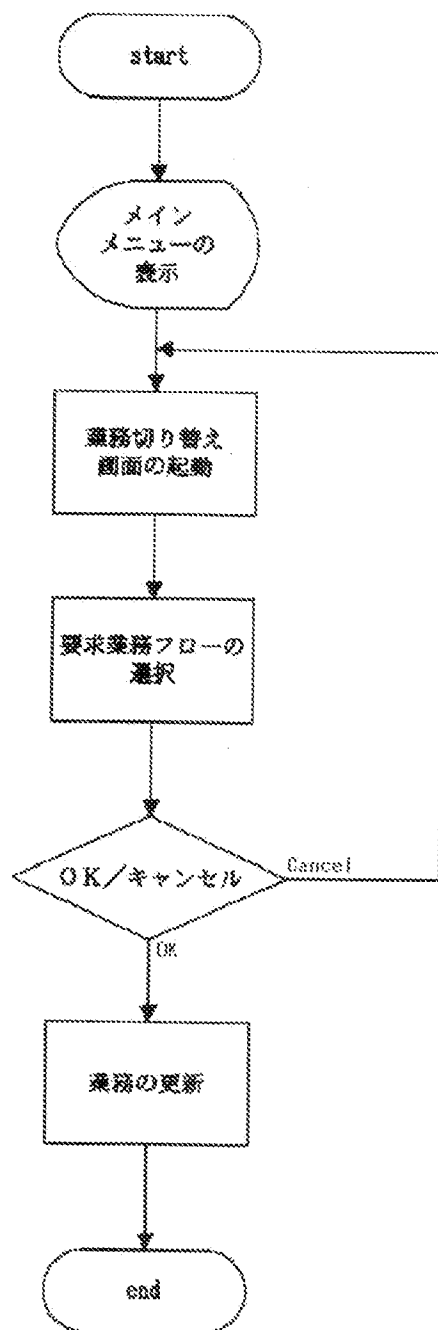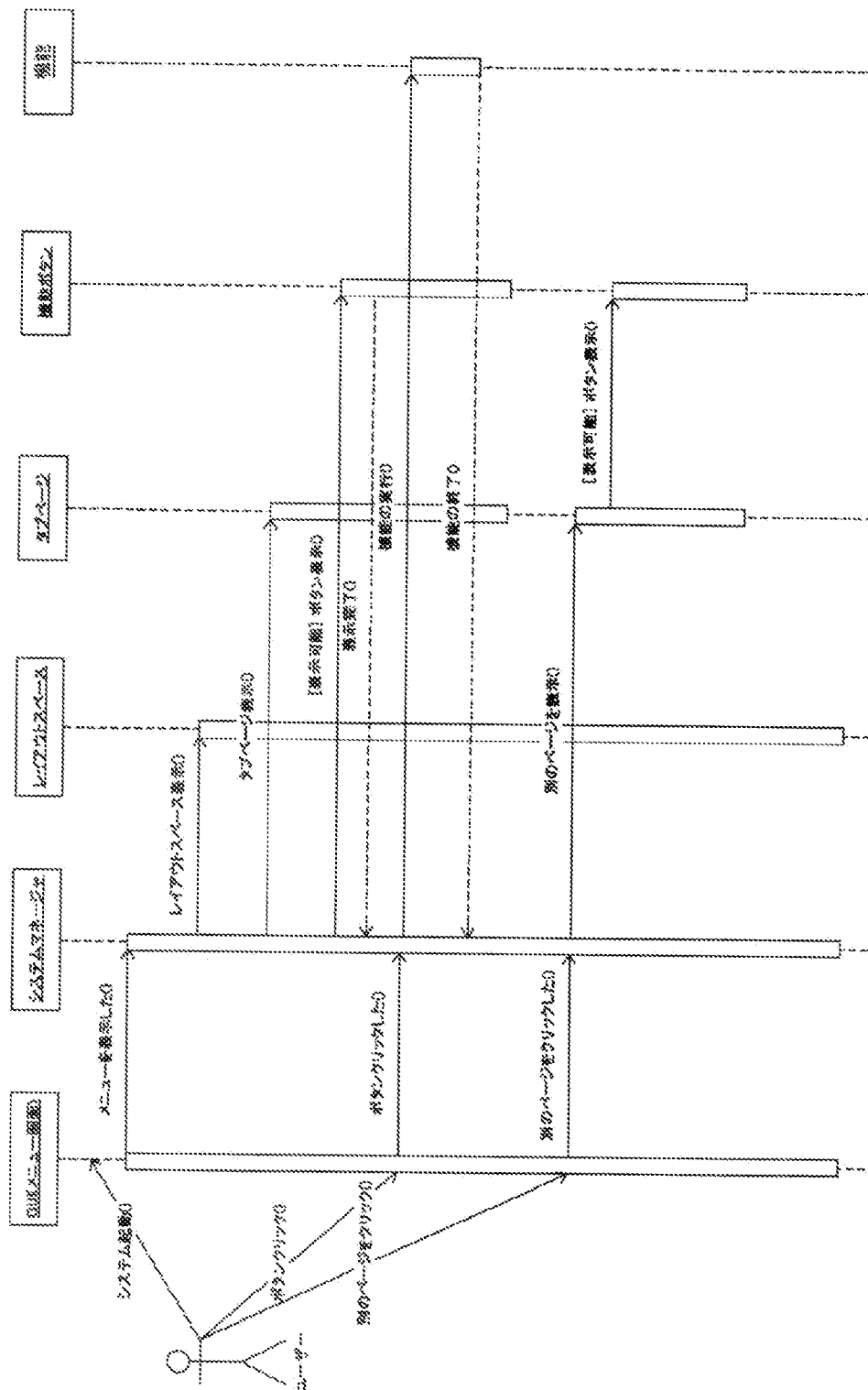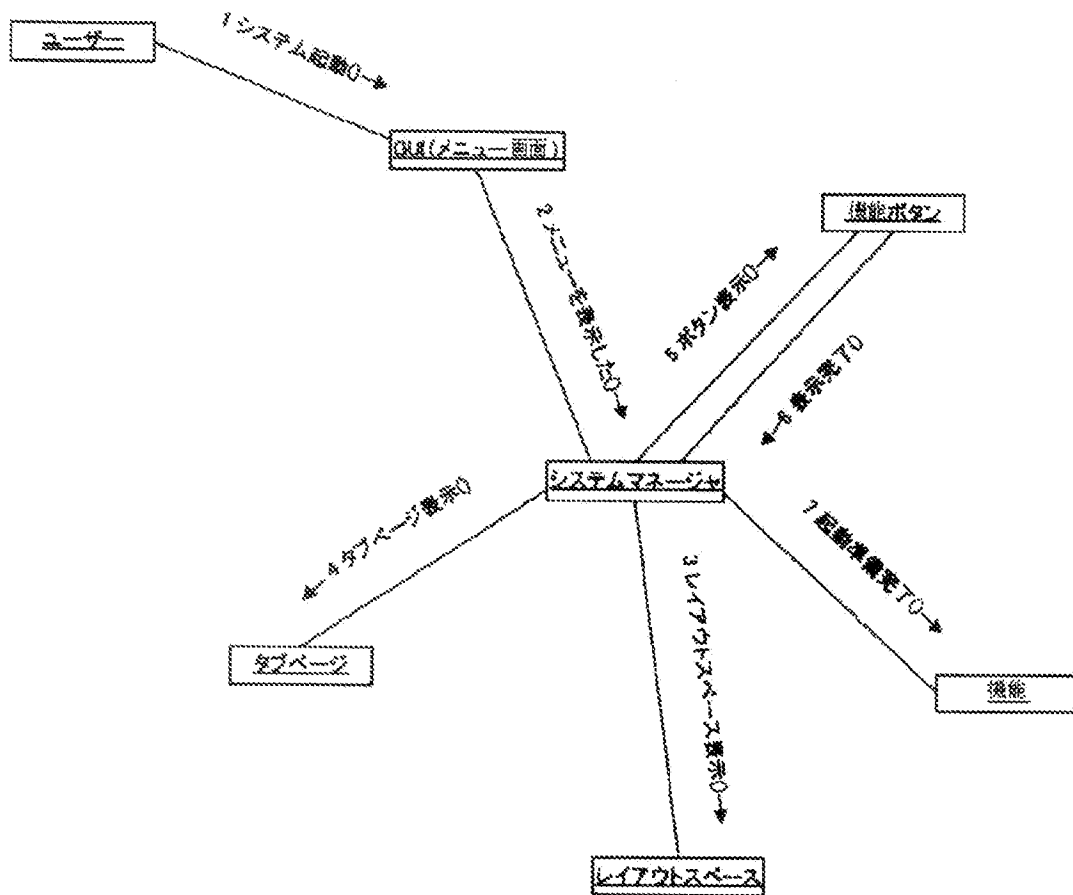
[Drawing 5]

[Drawing 3]

歯科用情報処理システム

メニューのレイアウト設計

その他の業務機能を利用する

ユーザー

[Drawing 4]

[Drawing 6]

[Drawing 41]

start

メイン
メニューの
表示

業務切り替え
画面の起動

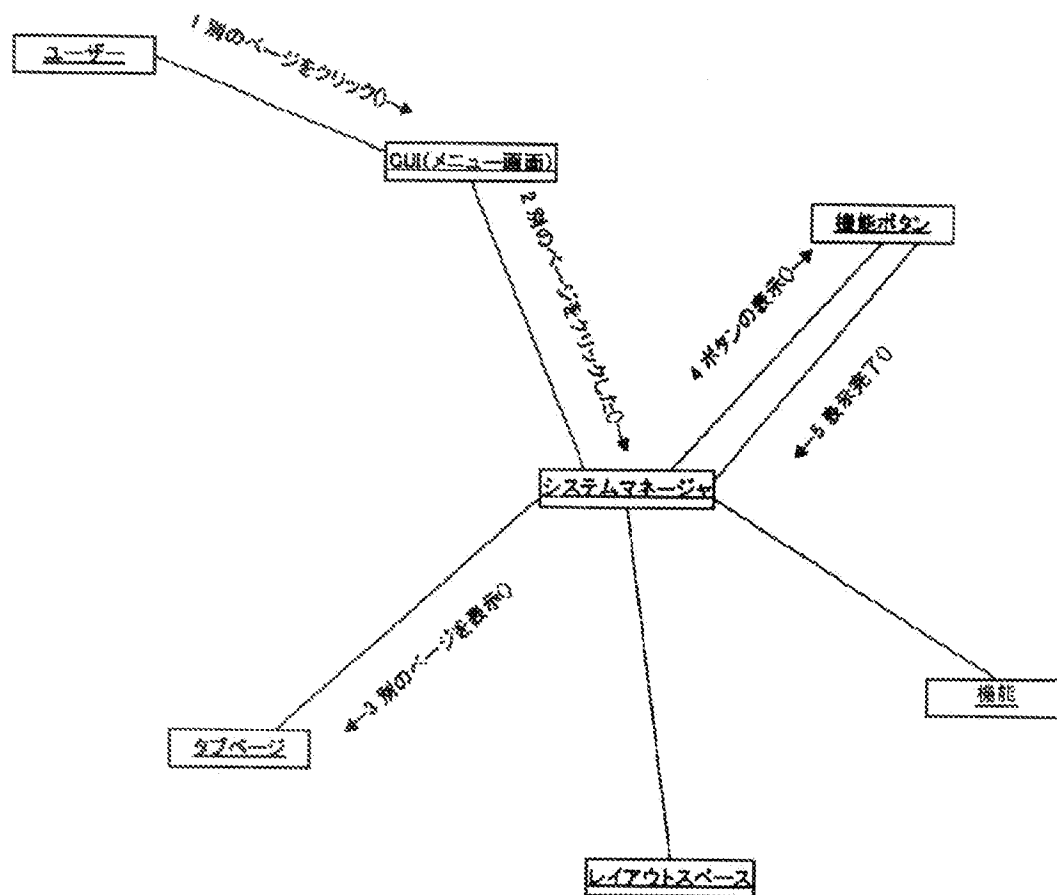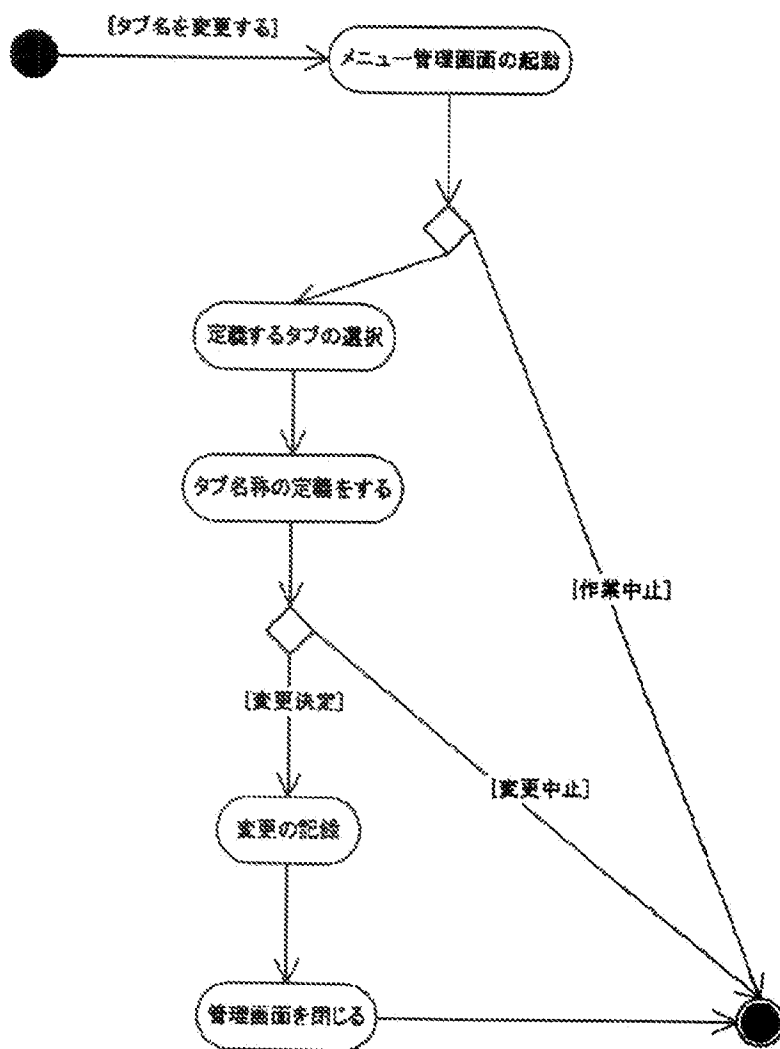要求業務フローの
選択

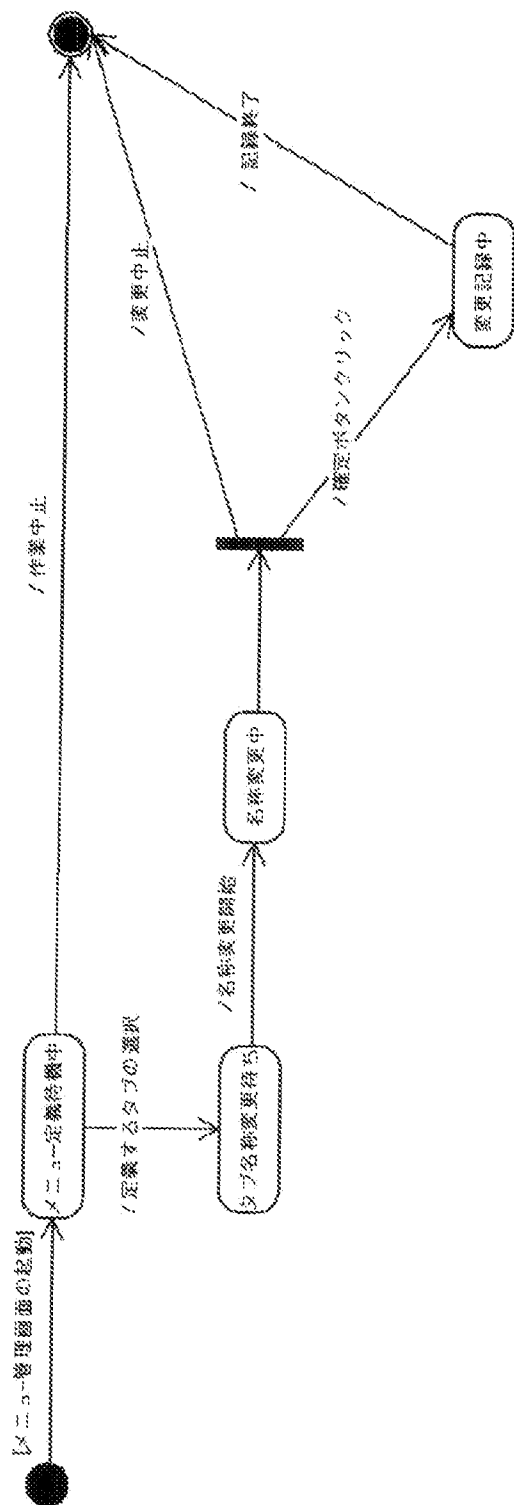OK／キャンセル — Cancel

OK

業務の更新

end

[Drawing 7]

[Drawing 8]

[Drawing 9]

[Drawing 10]

[Drawing 11]

[Drawing 12]

[Drawing 14]